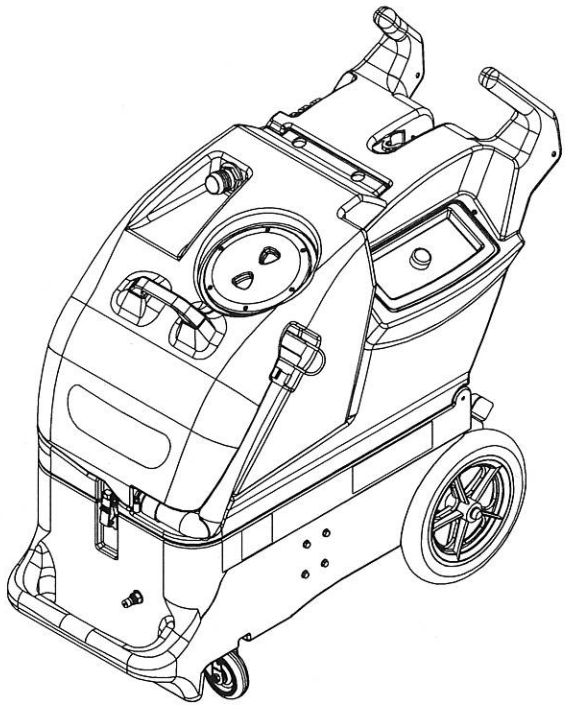
Clarke®

EX20



Instructions For Use - Original Instructions / Instrucciones de uso / Mode d' emploi
Models: 56105288 (100), 56105289 (100H), 56105290 (100SC)

READ THIS BOOK
LEA ESTE MANUAL
LISEZ CE MANUEL

EN English (A2 - A13)
ES Español (B2 - B13)
FR Français (C2 - C13)

This book has important information for the use and safe operation of this machine. Failure to read this book prior to operating or attempting any service or maintenance procedure to your Clarke machine could result in injury to you or to other personnel; damage to the machine or to other property could occur as well. You must have training in the operation of this machine before using it. If your operator(s) cannot read this manual, have it explained fully before attempting to operate this machine.
All directions given in this book are as seen from the operator's position at the rear of the machine.

Form No. 56091193 4/2015 REV A

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IMPORTANT SAFETY INSTRUCTIONS

This machine is only suitable for commercial use, for example in hotels, schools, hospitals, factories, shops and offices other than normal residential housekeeping purposes.
When using any electrical appliance, basic precautions should always be followed, including the following:

NOTE: Read all instructions before using this machine.

⚠ WARNING!

To reduce the risk of fire, electric shock, or injury:

- Do not leave the machine unattended when it is plugged in. Unplug the unit from the outlet when: not in use, before cleaning the machine, prior to servicing or performing any maintenance on the machine, and when replacing parts or converting the machine to another function.
- To avoid electric shock, do not expose to rain or snow. Store and use machine indoors only, store in a heated location. Do not let the machine or wand freeze.
- Do not allow to be used as a toy. Close attention is necessary when used near children.
- High pressure cleaners shall not be used by children or untrained personnel.
- Use only as described in this manual. Use only the manufacturer's recommended attachments.
- Never add water over 130° F/54° C to the solution tank.
- Always use a defoamer when foaming occurs to prevent vacuum motor damage.
- Do not let the pump run dry.
- Do not use with damaged cord or plug. If the machine is not working as it should, has been dropped, damaged, left outdoors or dropped into water, return it to a service center.
- Turn off all controls before unplugging.
- Do not pull by the cord, use the cord as a handle, close a door on the cord, or pull the cord around sharp edges or corners. Do not run the machine over the cord. Keep the cord away from heated surfaces. To unplug, grasp the plug, not the cord.
- Do not handle the plug, the cord or the machine with wet hands.
- Extension cords must be 12/3 and no longer than 50 feet. Replace the cord or unplug immediately if the ground prong becomes damaged.
- Connect to a properly grounded outlet only.
- Do not put any object into openings. Do not use with any opening blocked; keep free of dust, lint, hair, and anything that may reduce air flow.
- Keep loose clothing, hair, fingers, and all parts of body away from openings and moving parts.
- Do not pick up anything that is burning or smoking, such as cigarettes, matches, or hot ashes, or any health endangering dusts. Do not use to pick up flammable or combustible liquids such as gasoline or use in areas where they may be present.
- Risk of explosion – Do not spray flammable liquids.
- Use extra care when cleaning on stairs.
- Wear gloves or use rags when removing quick disconnects to prevent burns.
- Liquid ejected at the spray nozzle could be dangerous as a result of its temperature, pressure, or chemical content.
- High pressure jets can be dangerous if subject to misuse. The jet must not be directed at persons, live electrical equipment or the machine itself.
- Do not use the machine within range of persons unless they wear protective clothing.
- Do not direct the jet against yourself or others in order to clean clothes or foot-wear.
- High pressure hoses, fittings and couplings are important for the safety of the machine. Use only hoses, fittings and couplings recommended by the manufacturer.
- To ensure machine safety, use only original spare parts from the manufacturer or approved by the manufacturer.
- Water that has flowed through backflow preventers is considered to be non-potable.
- Do not use the machine if a supply cord or important parts of the machine are damaged, e.g. safety devices, high pressure hoses, trigger gun.

120VAC GROUNDING INSTRUCTIONS

This appliance must be grounded. If it should electrically malfunction, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This appliance is equipped with a cord having an equipment-grounding conductor and grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

⚠ DANGER!

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the appliance. If it will not fit the outlet, have a proper outlet installed by a qualified electrician.

This appliance is for use on a nominal 120-volt circuit, and has a grounding plug that looks like the plug illustrated in Figure 1 below. A temporary adapter illustrated in Figures 2 and 3 may be used to connect this plug to a 2-pole receptacle as shown in Figure 2 if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet (Figure 1) can be installed by a qualified electrician. The green-colored rigid ear, tab, or the like extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box cover. Whenever the adapter is used, it must be held in place by a metal screw. Grounding adapters are not approved for use in Canada.
Replace the plug if the grounding pin is damaged or broken.
The Green (or Green/Yellow) wire in the cord is the grounding wire. When replacing a plug, this wire must be attached to the grounding pin only.
Extension cords connected to this machine should be 12 gauge, three-wire cords with three-prong plugs and outlets. DO NOT use extension cords more than 50 feet (15 m) long.

⚠ WARNING!

- If an extension cord is used, the plug and socket must be of watertight construction.
- Inadequate extension cords can be dangerous.

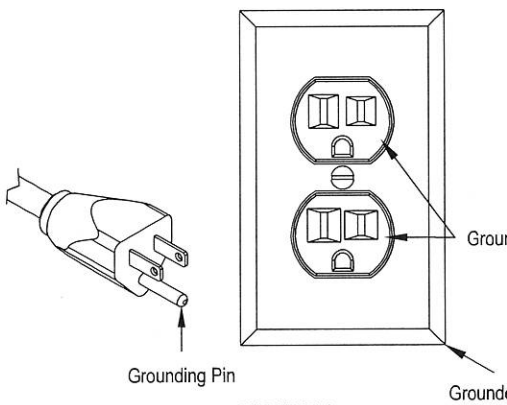


FIGURE 1

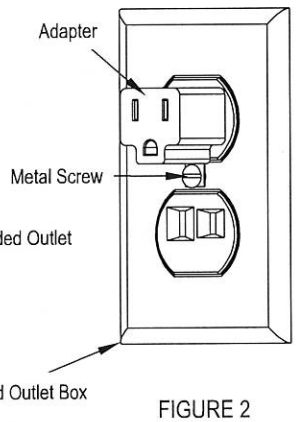


FIGURE 2

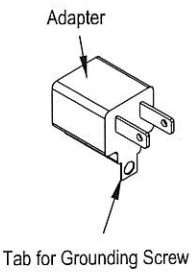
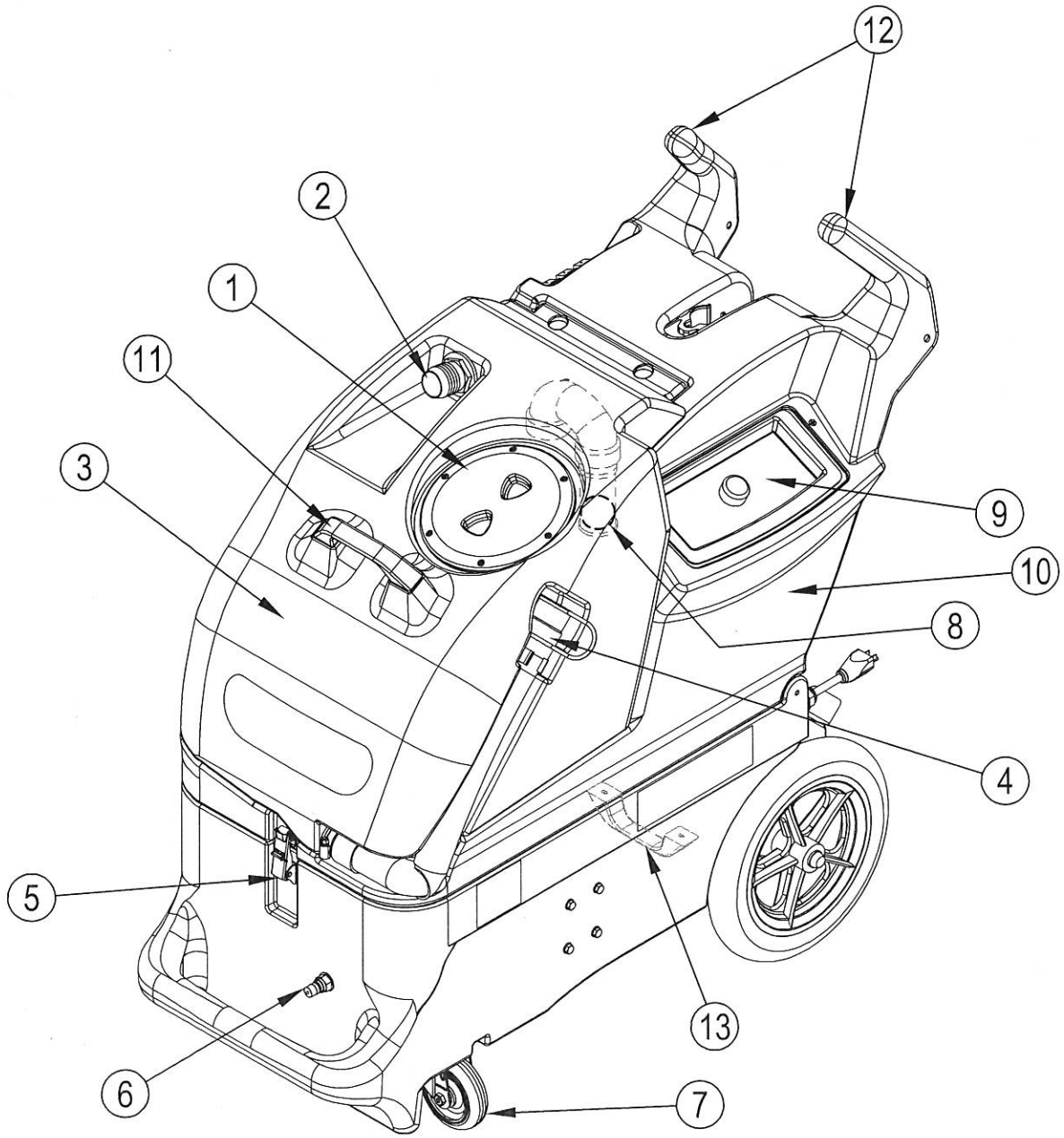


FIGURE 3

PLEASE NOTE: FOR NORTH AMERICA ONLY

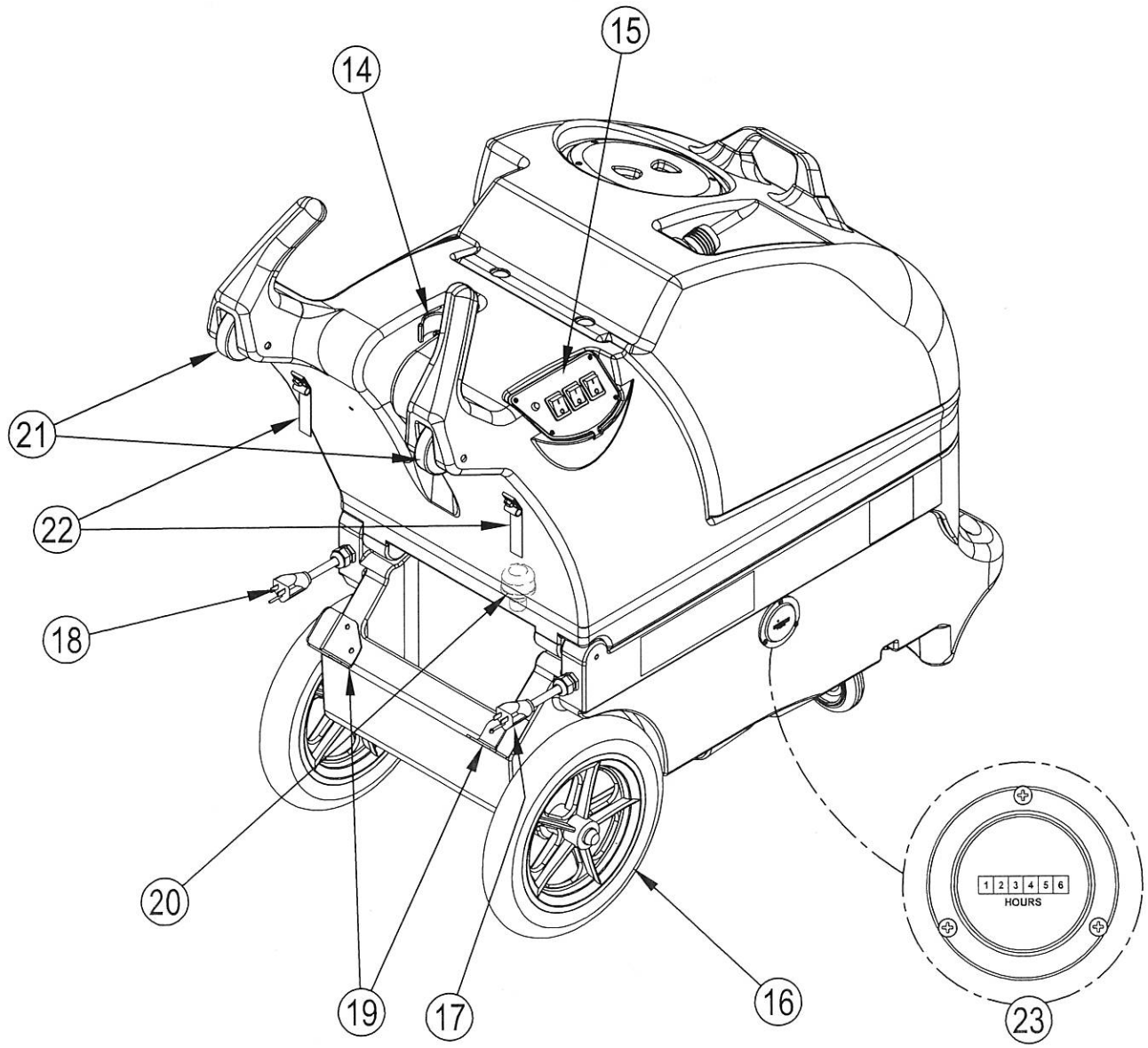
KNOW YOUR MACHINE

1 Recovery Tank Lid
2 Vacuum Hose Barb
3 Recovery Tank
4 Recovery Tank Drain Hose
5 Latch
6 Solution Hose Quick Disconnect
7 Caster
8 Recovery Tank Shutoff Float
9 Solution Tank Fill Opening
10 Solution Tank
11 Grab Handle
12 Handles
13 Loading Handle



KNOW YOUR MACHINE (CONTINUED)

14 Wand Storage Clip
15 Switch Plate
16 Wheel
17 Pigtail Power Cord (Yellow)
18 Pigtail Power Cord (Red) (100H only)
19 Wand Retainer Bracket
20 Solution Filter (inside solution tank)
21 Loading Wheels
22 Cord Retainer Straps (two)
23 Hour Meter (Optional)



KNOW YOUR SWITCHPLATE

A **Circuit Indicator (green)** - When this light is on, it indicates that the two cords are plugged into separate circuits (only used on 100H model). NOTE: if this indicator light is not turned on, you may have both power cords on the same circuit and this can trip the circuit breaker in the wall.

B **Vacuum Switch** - This switch turns the vacuum motor ON and OFF.

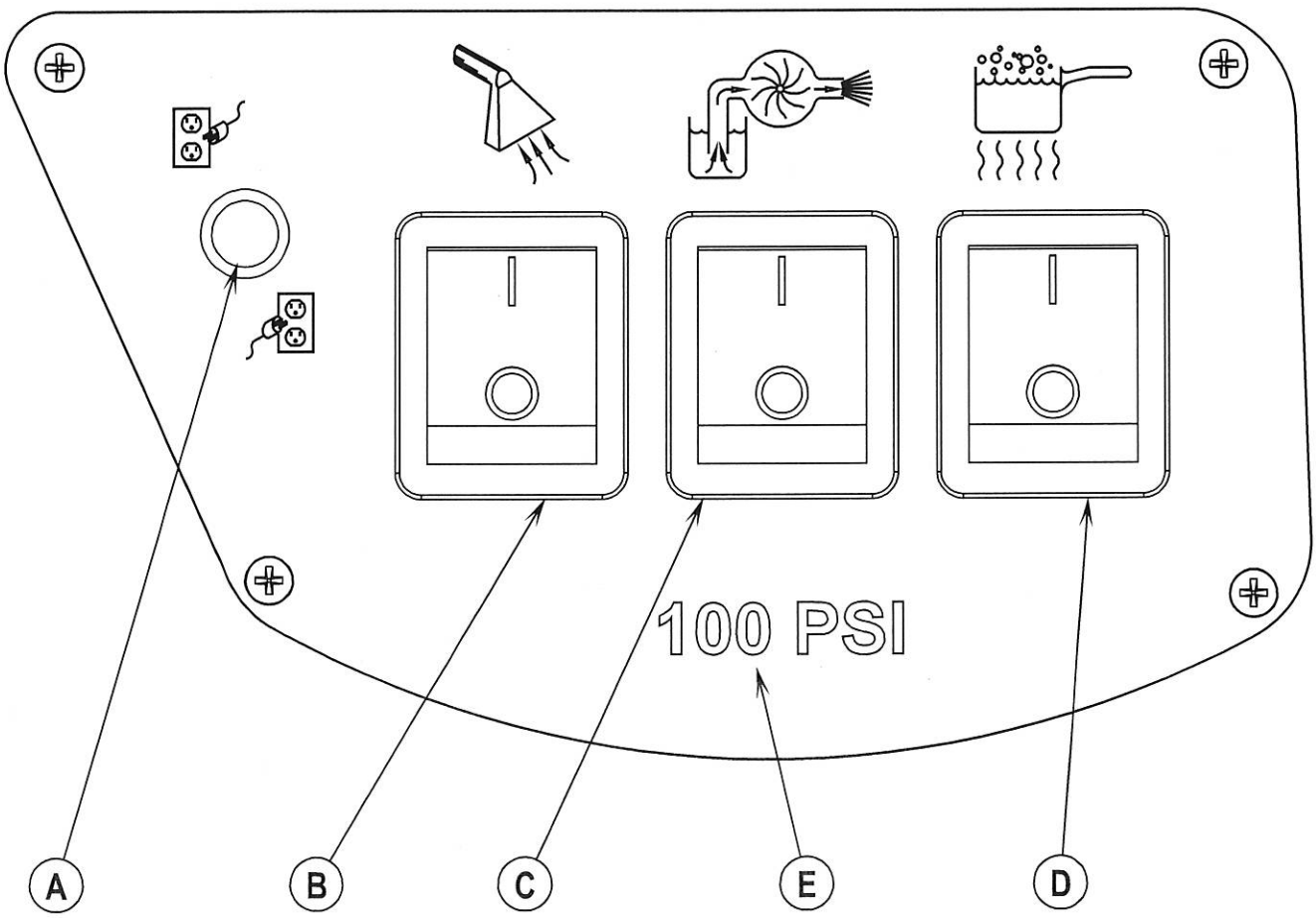
C **Pump Switch** – This switch turns the pump ON and OFF.

D **Heat Switch** - The heat switch turns the heater ON and OFF (not used on 100 model 56105288).

E **Pressure** - This label identifies the maximum pressure of your machine.

⚠ CAUTION!

The circuit breaker in the wall panel can trip if both cords are on the same circuit.



PREPARING THE MACHINE FOR USE

1 Inspect the machine, hoses, and cleaning tools for cleanliness and completeness.
2 Screw the Recovery Tank Lid **(1)** closed. Ensure the Recovery Tank Drain Hose Cap **(4)** is closed tightly.
3 Pre-spray spots and heavy traffic areas before extracting with the detergent of your choice. Mix the pre-spray according to the detergent manufacturer's directions.
4 Open Solution Tank Fill Opening **(9)** and fill the solution tank with clear water (12.5 gal. / 47 L capacity). If desired, add a detergent or rinse of your choice (we recommend a CRI approved detergent). If you choose to add a detergent to the solution tank, be sure to mix well, and always follow the use & dilution instructions on the detergent label. Only use a detergent with a pH between 5 and 10. Although this machine is designed to supply instant hot water (heated models only), the addition of warm water to the solution tank would increase heater efficiency. Never use water above 130° F/54° C in the solution tank.

⚠ CAUTION!

Use low-sudsing, liquid detergents designed for carpet extraction.

OPERATING THE MACHINE

1 Follow the instructions in the *Preparing the Machine for Use* section of this manual.
2 Turn off all the switches. Plug the power cords into properly grounded outlets. Do not connect both cords to the same outlet; the green, Circuit Indicator Light **(A)** on the switch plate should light up. If the indicator light does not come on, try different outlets until it does. Do not connect both cords to the same outlet.
3 Attach the priming hose to the machine and place the open end into the solution tank.
4 Turn ON the solution pump **(C)** and let it run until the pump is fully primed (approximately 30 seconds to 1 minute). Once the pump is primed, turn off the pump and remove the priming hose. **NOTE:** If priming is difficult, place the open end of the priming hose into the Vacuum inlet hose barb, and turn the vacuum **(B)** on. Use your hand to block the open area in the hose barb. This will allow the pump and the vacuum to work together to get the water moving.
5 Connect a solution line to the Solution Hose Quick Disconnect **(6)**. Attach the other end of the solution line to the cleaning tool.
6 Connect a vacuum hose to the Vacuum Hose Barb **(2)**. Attach the other end of the vacuum hose to the cleaning tool.
7 To use heated water for cleaning, press the Heat Switch **(D)** on. Wait two minutes for the heat exchanger to reach temperature.
8 Press the Pump Switch **(C)** to ON (I).
9 Press the Vacuum Switch **(B)** to ON (I).
10 Spray through your tool a few times to fill the lines with solution. Begin cleaning.
11 Watch the fluid entering the Recovery Tank Lid **(1)**. If there is a large amount of suds in the recovery tank, add a defoamer chemical to the recovery tank.

⚠ CAUTION!

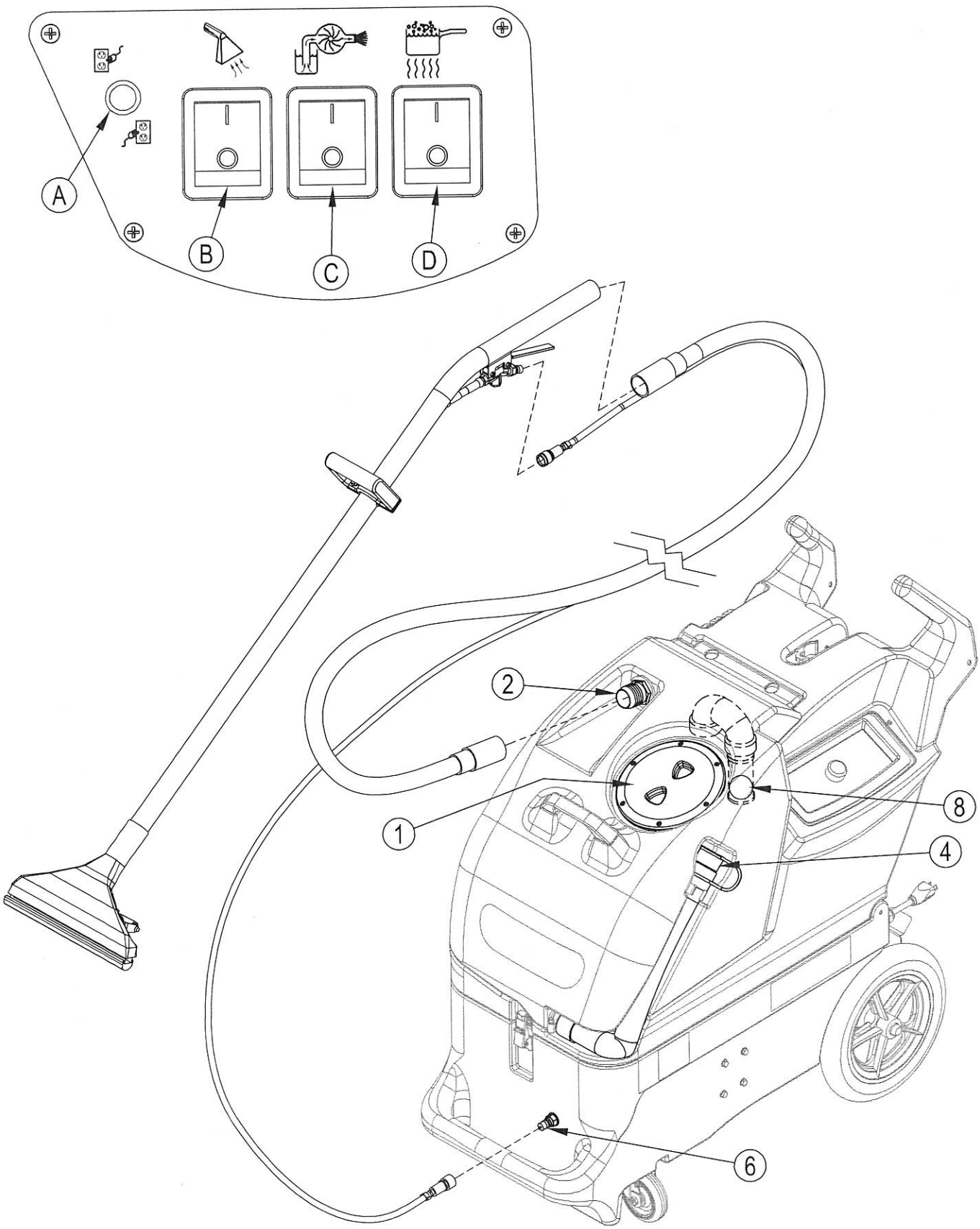
- Empty the recovery tank before the fluid or foam enters the vacuum motor.
- If foam or liquid escapes from the machine, switch off immediately.

⚠ CAUTION!

Always make sure the float is clean and travels freely before turning on the machine. A float that is stuck will cause the vacuum motor to suck in water, resulting in vac motor damage.

12 The recovery tank has a Recovery Tank Shutoff Float **(8)** to block the vacuum system when the recovery tank is full. You can tell when the float closes by the sudden change in the sound of the vacuum motor. When the float closes, the recovery tank must be emptied. The machine can continue to dispense solution, but **will not** pick up water with the float closed.
13 Monitor the water level in the solution tank. Do not let the pump run dry. When the solution tank gets low, turn off the pump and the vacuum motor, refill the solution tank with water and the proper ratio of cleaning detergent. Empty the recovery tank and continue cleaning.
14 When the operator has completed the job; vacuum all unused solution from the solution tank into the recovery tank, turn off the pump, vacuum motor and heat exchanger. Unplug the machine.
15 Push the machine to a designated waste water "DISPOSAL SITE" and empty the recovery tank. To empty, pull the Recovery Tank Drain Hose **(4)** from its side storage location, then remove the plug (hold the end of the hose above the water level in the tank to avoid sudden, uncontrolled flow of waste water).
16 Follow the instructions in the *After Using the Machine* section of this manual.

OPERATING THE MACHINE



AFTER USING THE MACHINE

1 To empty the solution tank, open Solution Tank Fill Opening **(9)** and vacuum out all unused solution into the recovery tank using the vacuum hose. Rinse the tank with clean water.

2 Turn all the Power Switches **(B, C & D)** to OFF (O). Unplug the Power Cords **(17, 24)**. Coil the cords and secure them to the rear of the machine using the two Cord Retainer Straps **(22)**.

3 To empty the recovery tank, pull the Recovery Tank Drain Hose **(4)** from its side storage location, then remove the plug (hold the end of the hose above the water level in the tank to avoid sudden, uncontrolled flow of waste water). Rinse the tank with clean water. Inspect the drain hose; replace if kinked or damaged.

4 Disconnect the solution and vacuum hoses from the machine, at the Solution Hose Quick Disconnect **(6)** and Vacuum Hose Barb **(2)**. Flush the vacuum hose with warm water to wash any debris out of the vacuum hose and cleaning tool. Inspect them for damage.

5 Wipe the machine with a damp cloth. Do not use abrasive chemicals or solvents.

6 Perform any required maintenance before storage.

MAINTENANCE SCHEDULE

MAINTENANCE ITEM	Daily	Weekly	Monthly	Yearly
Check / Clean Tanks & Hoses	X			
Check / Clean Recovery Tank Shut-Off Float	X			
Clean Extraction Wand/Tool	X			
Inspect & Clean Solution Filter		X		
Use a flushing compound (descale machine)			X	
*Check Carbon Brushes				X

* Have a Clarke service technician check the vacuum motor carbon brushes once a year or after 300 operating hours. Check the pump motor carbon brushes every 500 hours or once a year.

⚠ IMPORTANT!

Motor damage resulting from failure to service the carbon brushes is not covered under warranty. See the Limited Warranty Statement.

7 Store the machine indoors in a clean, dry place with the recovery tank lid open. Keep from freezing.

8 Lubricate the wheels, castors and quick disconnects with an all-purpose silicone spray.

9 Once a month, run a flushing compound (a mild acid descaler) through the machine to break up any mineral or chemical build-up that may have formed. Rinse the descaler out of the system with a few gallons of clear water.

POWER CORD MAINTENANCE

Once a week (or more often if necessary), check the power cords for cracked or damaged insulation, exposed wires in the cord or plug, and damaged or missing ground pin. Repair or replace damaged cord or plug **immediately**.

TROUBLESHOOTING:

IF THIS OCCURS	CHECK THIS
NO SPRAY	Solution tank is empty, or filter is plugged. Clogged spray tip(s). Pump not running or not primed. Valve on wand not operating. Solution hose not completely connected to hose or to machine.
PUMP DOES NOT RUN	This pump motor runs on AC voltage, so it should start running as soon as you turn on the switch. If the pump motor does not start running, check the wiring to the switch and to the motor. Check the switch to see if it is "open". Check voltage to the switch.
LOW SUCTION	Debris is plugging cleaning tool or vacuum hose. Drain hose cap is not completely closed. Recovery tank lid is not seated or gasket is damaged.
NO SUCTION	Ball in the float is blocking air flow. Turn off the vacuum so the ball will drop down, or the recovery tank is full and needs to be emptied. No power to motor. Test the switch. Test the vacuum motor.
LOW HEAT	Spraying too long. Try spraying for 12-15 seconds, or about three strokes. Heat exchanger needs to be flushed. Wrong tool being used. Too much water passing through. Longer hose or larger diameter hose, than standard.
NO HEAT	Heat is not turned on. The green circuit indicator light must be on. No power in the wall outlet - check to see if the breaker has tripped. Call your distributor for additional help.

TECHNICAL SPECIFICATIONS (as installed and tested on the unit)

Model	EX20 100SC	EX20 100H	EX20 100
Model No.	56105290	56105289	56105288
Voltage/frequency	120 V / 60 Hz	120 V / 60 Hz	120 V / 60 Hz
Rated Current	15 Amp	15 Amp	15 Amp
Protection Class (electrical)	Class 1	Class 1	Class 1
Solution Tank Capacity	12.5 gal (47 L)	12.5 gal (47 L)	12.5 gal (47 L)
Recovery Tank Capacity	11.0 gal (42 L)	11.0 gal (42 L)	11.0 gal (42 L)
Total Weight	87 lbs. (39.4 kg)	87 lbs. (39.4 kg)	87 lbs. (39.4 kg)

Material Composition and Recyclability		
Type	% of machine weight 100	% recyclable
Aluminum	8%	100%
Electrical / motors / engines - misc	18%	33%
Ferrous metals	7%	100%
Harnesses / cables	5%	75%
Liquids	0%	0%
Plastic - non-recyclable	2%	0%
Plastic - recyclable	5%	100%
Polyethylene	52%	95%
Rubber	3%	34%